

This listing of claims presented below replaces all prior versions and listings of claims in the application.

Listing of Claims

IN THE CLAIMS

1. (Currently Amended) Method to evaluate the integrity of chromatin/DNA and animal sperm comprising:

- a) ~~a treatment step of the~~ treating a sample containing the sperm, with a solution of DNA denaturing solution,
- b) a single ~~treatment step~~ treating the sample in the solution with a lysis solution to extract the nuclear proteins, and
- c) ~~an evaluation stage of~~ evaluating the integrity of the chromatin/DNA of the sperm ~~characterised because as~~ the lysis solution does not contain protein denaturing detergents and essentially does not destroy the ~~tails~~ tail of the sperm.

2. (Currently Amended) Method according to claim 1, ~~characterised in that stage~~ wherein step a) precedes that of b), or it ~~only~~ proceeds to steps b) and c).

3. (Currently Amended) Method according to claim 1, ~~characterised in that~~ wherein the lysis solution comprises ~~of~~ a non-ionic non protein denaturing detergent.

4. (Currently Amended) Method according to claim ~~1~~ 3, ~~characterised in that~~ wherein the non ionic detergent is selected from the group consisting of toctylphenoxypolyethoxyethanol (Triton X-100), N , N-bis(3-D-Gluconamidopropyl) cholamide (bigCHAP), Brij(r) 35 P, N-decanoyl-N-methylglucamine, digitonin, dodecanoyl-N-methylglucamide, heptanoyl-N-methylglucamide, branched octylphenoxy poly (ethyleneoxy) ethanol (Igepal CA-630), N-Nonanoyl-N-methylglucamine, Nonidet P 40, N-Octanoyl-N-methylglucamine, Span 20 solution, Polysorbate 20 (Tween 20) and ~~their mixtures, preferably Triton X-100~~ a mixture thereof.

5. (Currently Amended) Method according to claim 1, ~~characterised in that~~ wherein the lysis solution comprises sodium chloride between 1 and 3M, dithiothreitol (DTT) between 0.001 and 2M, 2-amino-2 (hydroxymethyl)-1,3-propanediol (Tris) between 0.001M and 2 M and Triton X-100 between 0.1% and 3%.
6. (Currently Amended) Method according to claim 1, ~~characterised in that~~ wherein the lysis solution comprises 2.5M sodium chloride, ~~around~~ about 0.2M DTT, ~~around~~ about 0.2M Tris, ~~around~~ about 1% Triton X-100 and a pH of ~~around~~ about 7.5.
7. (Currently Amended) Method according to claim 1, ~~characterised in that~~ wherein the DNA denaturing solution is acid.
8. (Currently Amende) Method according to claim 7, ~~characterised in that~~ wherein the DNA denaturing solution comprises an acid selected from the hydrochloric, acetic, nitric acid group or ~~a mixtures of these~~ mixture thereof.
9. (Currently Amended) Method according to claim 8, ~~characterised in that~~ wherein the DNA denaturing solution comprises hydrochloric acid.
10. (Currently Amended) Method according to claim 1, ~~characterised in that~~ wherein after steps a) and b) there is a sample staining step.
11. (Currently Amended) Method according to claim 10, ~~characterised in that~~ wherein the staining is made with a Wright type solution.
12. (Currently Amended) Method according to claim 11, ~~characterised in that~~ wherein the sample containing the sperm is included in a medium similar to a suspension[[,]] ~~preferably in a microgel~~.
13. (Currently Amended) Method according to claim 12, ~~characterised in that~~ wherein the sample containing the sperm is included in an agarose microgel.

14. (Currently Amended) ~~Kit~~ A kit for the evaluation of the quality of the sperm of animals which comprises:

- a) a DNA denaturing solution,
- b) a lysis solution to extract nuclear proteins, and
- c) instructions for treating the sperm and evaluating the integrity of the chromatin/DNA of the sperm.

~~characterised in that~~ wherein the lysis solution does not contain a protein denaturing detergent and essentially does not destroy the ~~tails~~ tail of the sperm.

15. (Currently Amended) ~~Kit~~ The kit according to claim 14, ~~characterised in that~~ wherein the lysis solution comprises sodium chloride between 1M and 3M , dithiothreitol (DTT) between 0.001M and 2 M, 2-amino-2 (hydroxymethyl)-1,3 propanediol (Tris) between 0.001M and 2 M and Triton X-100 between 0.1% and 3%.

16. (New) The method according to claim 4, wherein the non ionic detergent is Tritonx X-100.

17. (New) The method according to claim 12, wherein the medium is a microgel.